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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/616,811	MKRTCHYAN ET AL.
Office Action Summary	Examiner	Art Unit	
	RICHARD Z. ZHU	2625	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 March 2010</u>.

2a)☒ This action is **FINAL.** 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>23-28 and 86-91</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>23-28 and 86-91</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
           application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Acknowledgement

1. Acknowledgement is made of applicant's amendment made on 03/17/2010. Applicant's submission filed has been entered and made of record.

Status of the Claims

2. Claims 23-28 and 86-91 are pending.

Response to Applicant's Arguments

3. **In response to claims 23 and 24.**

On more than one occasions, the applicant's representative zealously addressed the alleged difference between *Reilly* and the claimed invention in that it is the printer that <u>initiates</u> the disconnection process. However, the relevant claims merely require "disconnecting by the gaming machine printer" without actually requiring a client such as a game controller to initiate disconnection, which *Reilly* could reasonably read upon even though *Reilly* closes a TCP socket in response to a client initiated disconnection process. Nevertheless, to resolve the impasse, the examiner is moving forward with a new reference that explicitly addresses this specific feature. Please see the relevant rejections.

4. **In response to Claims 26 and 27.**

Applicant's amendment to the claims and arguments has been fully considered. As a result, previous grounds of rejections are withdrawn in favor of new grounds of rejections.

5. With regards to Claims 25 and 28:

Reilly teaches a reconnection mechanism, whenever it is implemented, it is used by the printer to send asynchronous status updates to clients which support IDP.

Stockdale teaches "critical information including the current state of peripheral devices is stored in non-volatile memory" **(Col 10, Rows 45-48, a gaming printer being one of the peripheral)** in case Peripheral Controller loses power **(in which case, connection with all its peripheral are interrupted)**. Once power and connection with the peripheral controller are restored, relevant information stored in the non-volatile memory is transfer to the gaming controller within a gaming machine **(Col 11, Rows 56-64)**.

Stockdale suggested a realistic scenario where power loss could disrupt the connection between a server and its peripheral devices comprising game controllers and game printers. Given the fact that *Reilly*'s printer is the server, one of ordinary skill in the art at the time of the invention would've been motivated to take this scenario into consideration. Here, it would be predictable to modify the server printer of *Reilly* with subroutines to save critical information such as its own status within a volatile memory and once power is restored, *Reilly*'s printer may resume its operation and facilitates reconnection to previously connected clients so that asynchronous status updates to said client are send. Thus, *Reilly* in view of Stockdale meets each and every limitation set forth by claims 25 and 28.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

    rejections set forth in this Office action:

    > (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
    > section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
    > such that the subject matter as a whole would have been obvious at the time the invention was made to a person
    > having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
    > manner in which the invention was made.

7. Claims 25 and 28 are rejected under 35 USC 103(a) as being unpatentable over *Reilly (US*

    6687776 B2) in view of *Stockdale et al. (US 6503147 B1)*.

    Regarding the apparatus of Claim 25 and therefore method of Claim 28, *Reilly*

    discloses a network machine printer **(Fig 6, Printer 410 and see Col 9, Rows 10-20)**,

    comprising:

    a processor **(Fig 6, CPU 416)**;

    a communication port coupling the network machine printer to an external host **(Fig**

    6, ROM 412 and see Col 9, Rows 12-15, ROM being used to implement network layer

    architecture shown in Col 5, Rows 5-15 for providing an interface for a plurality of IDP

    ports that connects to a plurality of host computers 400 over the network);

    a memory coupled to the processor, the memory having program instructions

    executable by the processor stored therein **(Fig 6, ROM 412 and see Col 9, Rows 12-15,**

    ROM being used to implement network layer architecture using a UNIX based

    program, see Col 5, Rows 15-25), the program instructions comprising:

    determining by the network machine printer the status of a communication link to the

    host via the communication port **(Col 8, Rows 12-25, connection service layer**

implemented by the printer detects an incoming service request from an IDP host or status of communication link between the host and the printer. The request is thereafter added to the print queue); and

storing by the network machine printer the status of the network printer in a memory when the network machine printer determines that the communication link is interrupted (**Col 6, Rows 40-55 and Col 4, Rows 45-60 in view of Col 8, Rows 12-25. When an incoming host made a print request, the request is accepted by being saved to the print queue so that the printer remembers which host made the request. Thereafter, the host closes the connection or otherwise disrupts the communication link**);

transmitting by the network machine printer the status of the network machine printer to the host when the communication link is reestablished by the network machine printer (**Col 6, Rows 52-55, call back the host computer that requested the first print job. Col 4, Rows 50-56, said call back process includes current status of the printer pertaining to various updated parameters**);

Reilly does not disclose the network printer being a gaming machine printer connected to a game controller and locking the status of the gaming machine printer in the non-volatile memory when the gaming machine printer determines that the communication link is interrupted.

Stockdale discloses a gaming machine printer connected to a gaming controller (**Fig 2, Printer 238 connected to the main cabinet 4 of gaming machine 2 shown in Fig 1 having a master gaming controller 200, see Fig 2 and Col 6, Rows 20-24**) connected to a

processor (**Figs 2-3, Peripheral Controller 234 and Control Microprocessor 312**) having

program instructions executable by the process stored within a memory (**Col 11, Rows 1-10**)

for notifying the gaming controller its current peripheral configurations and status

information (**Col 11, Rows 10-20 and Rows 55-65**) via an established communication port

(**Fig 2, Hub 230**).

      Stockdale further discloses locking in a memory status information of a gaming

machine printer when it is determined that a communication link with a peripheral is

interrupted (**Col 15, Row 60 – Col 16, Row 5, interrupting communication link to a first

host or peripheral to connect to a second host or peripheral. Col 16, Rows 40-55,

logging error status of the printer peripheral when communication link with a

peripheral is interrupted naturally requiring saving said log into some sort of memory**).

      Stockdale suggested that storing in a non-volatile memory status information of the

gaming machine printer ensures that in the event of some critical malfunction (**Col 17, Row

60 – Col 18, Row 8**) such as loss of communication link with a functioning peripheral (**Col

17, Rows 1-20**) ensures critical status information is not lost.

      One of ordinary skill in the art, facing with the problem that either a critical event

such as communication link interruption due to component or peripheral failures or non-

critical event such as communication link interruption due to standard operation to connect to

another peripheral or host could occur at anytime, would look to *Stockdale* for solution since

it suggested storing status information of a printer in non-volatile memory would ensure such

information be preserved for future use; for example, when reconnecting to a previously

connected host and said host requests status update of the printer as taught by *Reilly*.

It would've been obvious to one of ordinary skill in the art at the time of the invention

was made to implement the network printer of *Reilly* as the gaming machine printer of

Stockdale connected to a gaming controller as a client host so as to execute printing

operations for the plurality of peripheral devices and the gaming controller to save in non-

volatile memory status information of the gaming machine printer when a malfunction such

as interrupted communication link occurs whereas the motivation would've been to provide

an advantageous network gaming machine printer where network traffic is advantageously

reduced (*Reilly,* **Col 7, Rows 64-67**) and in event of malfunctions during a certain on going

operation, critical status information can be used to determine the state or status of the

gaming machine before the interruption (*Stockdale*, **Col 18, Rows 5-8**).

8. Claims 26-27 and 90-91 are rejected under 35 USC 103(a) as being unpatentable over *Reilly*

    (US 6687776 B2) in view of *Stockdale et al. (US 6503147 B1)* and *Yegnanarayanan (US*

    70235666 B2).

    Regarding the apparatus of Claim 27 and therefore method of Claim 26, *Reilly*

    discloses a network machine printer (**Fig 6, Printer 410 and see Col 9, Rows 10-20**),

    comprising:

    a processor (**Fig 6, CPU 416**);

    a plurality of communication ports coupled to the processor (**Fig 6, ROM 412 and**

    see Col 9, Rows 12-15, ROM being used to implement network layer architecture shown

**in Col 5, Rows 5-15 for providing an interface for IDP ports that connects to a plurality
of host computers 400 over the network**);

a memory coupled to the processor, the memory having program instructions
executable by the processor stored therein, (**Fig 6, ROM 412 and see Col 9, Rows 12-15,
ROM being used to implement network layer architecture using a UNIX based
program, see Col 5, Rows 15-25**) the program instructions comprising:

for each of the plurality of communication ports, determining by the network machine
printer if a host is coupled to the communication ports (**Col 6, Rows 13-24, IDP emulator
for detecting incoming communication from a newly connected client, see also Col 5,
Rows 32-42 + Col 8, Rows 12-25, connection service layer implemented by the printer
detects an incoming service request from an IDP host or status of communication link
between the host and the printer. The request is thereafter added to the print queue**);

establishing by the network machine printer the communication port as a native
communication port (**Col 5, Rows 5-15, IDP I/O Network Manager 30 is considered a
native port for connecting to IDP clients because it communicates with clients in its
native IDP protocols**) that is disconnected from the host prior to performing a separate
processing request by the network machine printer (**Fig 4, Step 5632-> 5614->5620 in view
of Col 6, Rows 45-55, in order to process a second print request, the printer must
complete a first print request. The printer terminates socket to a first host that made
the first request when the host closes the connection at 5632. Create a new socket to the
second host via reconnection mechanism, which comprises sending asynchronous status**

update to all previously connected host computers that supports IDP by creating a
plurality child process that enable concurrent connections to said plurality of
computers), the native port for connection to the host as a trusted host when the host is
detected on the communication port (**Col 5, Rows 10-15, these ports are able to
communicate with all of the IDP features between printers and computers that uses
IDP as its native protocol, in contrast to non-IDP clients that does not have access to
enhanced IDP features**).

Reilly does not disclose the separate processing involves downloading and uploading
of information to and from the gaming machine printer for servicing of the printer and that
the network printer is being implemented as a gaming machine printer connected to a gaming
controller as a trusted host to the gaming machine printer.

Stockdale discloses a gaming machine printer connected to a gaming controller (**Fig
2, Printer 238 connected to the main cabinet 4 of gaming machine 2 shown in Fig 1
having a master gaming controller 200, see Fig 2 and Col 6, Rows 20-24**) connected to a
processor (**Figs 2-3, Peripheral Controller 234 and Control Microprocessor 312**) having
program instructions executable by the process stored within a memory (**Col 11, Rows 1-10**)
for notifying the gaming controller its current peripheral configurations and status
information (**Col 11, Rows 10-20 and Rows 55-65**) via an established communication port
(**Fig 2, Hub 230**);

It would've been obvious to one of ordinary skill in the art at the time of the invention
was made to implement the network printer of *Reilly* as the gaming machine printer of

Stockdale connected to a gaming controller as a client host so as to execute printing

operations for the plurality of peripheral devices and the gaming controller controlled

machine connected to the printer over the network whereas the motivation would've been to

provide an advantageous network gaming machine printer where network traffic is

advantageously reduced (***Reilly*, Col 7, Rows 64-67**).

The combination does not suggest a separate function of downloading and uploading

of information to and from the gaming machine printer for servicing of the gaming machine

printer.

Yegnanarayanan discloses a printer that can perform a function of downloading and

uploading of information to and from the printer for servicing of the printer in a network

environment (**Col 2, Rows 15-33**).

It would've been desirable to one of ordinary skill in the art at the time of the

invention to have a function of uploading and downloading relevant information pertinent to

the transmission of software necessary for upgrades of a network printer such as that of

Reilly as modified by *Stockdale* through IDP supported / native port because it would be

convenient for a printer to automatically retrieve the necessary software for its own servicing

in place of manual service, which requires human presence (***Yegnanarayanan*, Col 2, Rows

1-4**).

Regarding Claims 90-91, *Reilly* discloses the plurality of communication port or

first and second communication port are communication ports selected from the group

including a serial port, a parallel port, a Universal Serial Bus (USB) port and an Ethernet port

(Col 5, Rows 5-15, Rows 50-65, and Col 5, Row 66 – Col 6, Row 12, parallel port that

supports Ethernet protocols).

9.   Claims 23-24 and 86-89 are rejected under 35 USC 103(a) as being unpatentable over *Reilly*

(US 6687776 B2) in view of *Stockdale et al. (US 6503147 B1)* and *Yamaguchi (US*

5832301 A).

　　　　Regarding the apparatus of Claim 23 and therefore method of Claim 24, *Reilly*

discloses a network machine printer (**Fig 6, Printer 410 and see Col 9, Rows 10-20**),

comprising:

　　　　a processor (**Fig 6, CPU 416**);

　　　　a first communication port coupled to the processor (**Fig 6, ROM 412 and see Col 9,**

Rows 12-15, ROM being used to implement network layer architecture shown in Col 5,

Rows 50-65 for providing an interface for IDP ports that connects to a plurality of host

computers 400 over the network, this includes bi-directional centronics port IDP

network managers 30 and Parallel Port Manager 20);

　　　　a second communication port coupled to the processor (**Fig 6, ROM 412 and see Col**

9, Rows 12-15, ROM being used to implement network layer architecture shown in Col

5, Rows 5-15 for providing an interface for IDP ports that connects to a plurality of host

computers 400 over the network) for connection to a host computer (**Fig 1, Host 1_0 to 1_n**),

the second communication port is a native communication port connecting the host computer

as a trusted host to the network machine printer (**Col 5, Rows 10-15, these ports are able to**

communicate with all of the IDP features between printers and computers that uses
IDP as its native protocol);

a memory coupled to the processor, the memory having program instructions
executable by the processor stored therein (**Fig 6, ROM 412 and see Col 9, Rows 12-15,
ROM being used to implement network layer architecture using a UNIX based
program, see Col 5, Rows 15-25**), the program instructions comprising:

detecting by the network machine printer when an external device is coupled to the
first communication port (**Col 8, Rows 12-25, socket service, connection service and
system service cooperates with server 80 to detect incoming requests made by hosts. If a
detection is made, the host, which is external, is determined to be coupled to a
corresponding port. This process is perform by listen(), see NPL "Socket
Programming" at Page 9, step 3**);

notifying by the network machine printer to the host computer coupled to the second
communication port when the external device is coupled to the first communication port (**Col
6, Rows 45-55, sending asynchronous status updates to all host computers that support
IDP as its native protocol include previously connected hosts, said status update
includes number of elements within print queue 82, information indicative of various
other clients who had established communication session with the network printer, Col
4, Rows 50-56**); and

disconnecting by the gaming machine printer communications from the host
computer when the external device is coupled to the first communication port (**Col 5, Rows**

40-41 in view of Fig 4, Step 5614. According to "Socket Programming" at page 9, a

server socket or TCP connection is terminated when a client gives the command to do

so. At step 5614, such command is given when the host orders the connection be closed.

Further, Col 12, Rows 18-20, "wherein the <u>network printer closes the connection</u> after

queuing the print job information" appears to suggest the printer could also initiate the

closing of connection. Col 6, Rows 40-50 in view of Fig 4, Steps 5614-5620, here, in a

scenario where the printer is processing a first job from a first host when it receive a

connection request from a second host with a second job, it will finish processing the

first job, closes the connection to the first host either in response to a host request or

initiate the disconnection on its own according to steps 5626-5632, and execute the

process in accordance to 5600-5632 for the second host).

Reilly does not suggest where the step of notifying and the disconnection process

from the host computer is performed <u>when the network printer detects</u> that the external

device is coupled to the first communication port.

Yamaguchi discloses a printer server (**Fig 1, Printer Server 200**) where, <u>when it</u>

<u>detects a connection request from a second host</u> (**Fig 14, "receive interrupt request**

command") while it is processing a first job from a first host, it determines whether the

second host has a higher priority than the first host (**Fig 14, Step 20**); if the second host does

have a higher priority, the printer server notifies the first host that the second host has made a

connection and it must interrupt the processing between itself and the first host (**Fig 14 Steps**

21-22 in view of Col 11, Rows 16-18, clients can monitor the status of server at all time)

and the printer server proceeds to establishing a communication session with the second host

(**Fig 14, Step 23**); and

when processing pertinent to the second host is complete and communication to the

first host is restore to resume processing pertinent to the first host, the printer server reports

communication session to the first host (**Fig 14, Step 29, because the client monitors status**

information at all time, it means the printer server is sending status updates at all time

including the time when communication session is restore to the first host to receive

image data to resume printing).

Reilly has the disadvantage in that its queue operates on a strict first in first out basis

with no regard to distinguish between an execution that is mission / processing critical vs.

something that is not.

Further, the network printer in *Reilly* is substantially the printer server envisioned by

Yamaguchi because its architecture dictates the communication between itself and hosts over

the network.

Therefore, it would've been desirable to one of ordinary skill in the art at the time of

the invention to modify *Reilly*'s network printer (**which acts as the printer server**) to

implement the features of *Yamaguchi* so that it can distinguish a priority of a host and

disconnects communication session to a pre-existing host if the host has a higher priority than

the pre-existing host. In this manner, the combination has the advantage of being sensitive to

the urgency of higher priority hosts.

Reilly does not disclose the network printer being a gaming machine printer

connected to a gaming controller.

Stockdale discloses a gaming machine printer connected to a gaming controller (**Fig**

2, Printer 238 connected to the main cabinet 4 of gaming machine 2 shown in Fig 1

having a master gaming controller 200, see Fig 2 and Col 6, Rows 20-24) connected to a

processor (**Figs 2-3, Peripheral Controller 234 and Control Microprocessor 312**) having

program instructions executable by the process stored within a memory (**Col 11, Rows 1-10**)

for notifying the gaming controller its current peripheral configurations and status

information (**Col 11, Rows 10-20 and Rows 55-65**) via an established communication port

(**Fig 2, Hub 230**).

Here, the examiner considers the implementation of a network printer as a gaming

machine printer in the environment of gaming peripherals with respective gaming controller

a matter of design choice. While there is no doubt such implementation has tremendous

industrial applicability, however, the implementation in itself is a matter of choice, not

innovation.

It would've been obvious to one of ordinary skill in the art at the time of the invention

was made to implement the network printer of *Reilly* as the gaming machine printer of

Stockdale connected to a gaming controller as a client host so as to execute printing

operations for the plurality of peripheral devices and the gaming controller controlled

machine connected to the printer over the network whereas the motivation would've been to

provide an advantageous network gaming machine printer where network traffic is

advantageously reduced (***Reilly, Col 7, Rows 64-67***) and to reduce financial cost by having a printer to serve a plurality of gaming machines and its peripherals.

      Regarding Claims 86-89, *Reilly* discloses the plurality of communication port or first and second communication port are communication ports selected from the group including a serial port, a parallel port, a Universal Serial Bus (USB) port and an Ethernet port (**Col 5, Rows 5-15, Rows 50-65, and Col 5, Row 66 – Col 6, Row 12, parallel port that supports Ethernet protocols**).

                                            Conclusion

10. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

      A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Richard Z. Zhu whose telephone number is 571-270-1587 or examiner's supervisor King Y. Poon whose telephone number is 571-272-7440. Examiner Richard Zhu can normally be reached on Monday through Thursday, 6:30 - 5:00.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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